

Original  
articleAnogenital warts and condom use—a survey of  
information giving

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**Objective:** To examine information giving by genitourinary medicine (GUM) consultants about the use of condoms for patients with anogenital warts (AGW).

**Method:** 228 GUM consultants in the UK and Ireland were sent a questionnaire concerning the information about condom use which they usually discuss with patients with AGW. The survey was carried out in 1994.

**Results:** There was a 46% response rate. Most consultants indicated giving information specifically with regard to the prevention of transmission of human papilloma virus (HPV), and not only in the context of safe sex. With regard to current AGW, consultants were more likely to discuss, than not to discuss, use of condoms with patients with regular sexual partners in terms of benefit, uncertain benefit, or no benefit. However, no significant difference in the likelihood of discussing, or not discussing, these issues was found for current AGW for patients without regular partners. For both groups, benefit of using condoms for current AGW was more likely to be discussed than no benefit. The majority of consultants indicated that they would discuss condom use after disappearance of AGW as being of uncertain benefit. However, many consultants also indicated discussing use of condoms for a specific period or an indefinite period of time, including many of those who specified discussing uncertain beneficial use of condoms after disappearance of AGW. The most common duration of condom use chosen for discussion was until 3 months after disappearance of AGW.

**Conclusion:** GUM consultants vary in the information they give about condom use specifically to prevent transmission of HPV. This survey suggests a need for evaluation by GUM physicians of management guidelines relating to information given about condom use for AGW, including utilising the available scientific evidence as well as dealing with issues of uncertainty.

(*Genitourin Med* 1997;73:203–206)

Keywords: anogenital warts; condoms; human papilloma virus

## Introduction

There are several possible benefits in specifically reducing transmission of human papilloma virus (HPV) between sexual partners—firstly, to reduce the incidence of anogenital warts (AGW) which account for the most commonly diagnosed sexually transmitted infection in genitourinary medicine (GUM) clinics in England<sup>1</sup> and Scotland<sup>2</sup>; secondly, to reduce anogenital infection with subclinical HPV, a condition which is frequently present in women and men<sup>3</sup>; thirdly, to reduce the incidence of anogenital cancers, in particular cervical cancer which has been causally associated with particular types of HPV.<sup>4</sup> Cervical cancer, in particular, has been shown to increasingly affect women under 40 years of age.<sup>5</sup>

Although the effectiveness of the latex barrier in preventing transmission of some infections has been demonstrated by culture detection methods,<sup>6,7</sup> there is no such evidence of the value of latex condoms in preventing HPV transmission because HPV cannot be readily cultured. The Food and Drug Administration in the USA used a spectrofluorometric detection method to study the effectiveness of latex condoms as a barrier to 110 nm polystyrene microspheres under conditions which attempted to model coitus.<sup>8</sup> However, we are unaware of similar studies having been performed with 55 nm diameter (the diameter of HPV) microspheres.

Furthermore, papillomavirus has been shown not to be inactivated by nonoxynol-9.<sup>9</sup> Knowledge is incomplete concerning the infectivity and oncogenic role of both AGW and subclinical genital HPV infection. In the light of all these problems it is understandable why management guidelines for the use of condoms in the context of AGW are indefinite.<sup>10</sup>

Patients expect health professionals to provide them with information<sup>11</sup> and the value of evidence based information has recently been emphasised.<sup>12</sup> Furthermore, a recent study has highlighted the need for increased awareness of the importance of information giving in the management of genital HPV infection.<sup>13</sup> Discussion by GUM physicians of the use of condoms with patients with AGW specifically to prevent infection of sexual partners with HPV should therefore involve giving information based upon available scientific literature, while acknowledging uncertainty about the value of condom use by patients with AGW.

The aim of this study was to evaluate current information giving by GUM physicians with regard to condom use by patients with AGW.

## Methods

Two hundred and twenty eight GUM consultants in the UK and Ireland were sent once only a questionnaire to which they could

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Accepted for publication  
12 February 1997

anonymously reply. Consultants were asked to choose from a series of options about the use of condoms those which most closely matched issues which they usually discuss with patients presenting with AGW. The choice of options was: (1) general information giving—not discussing use of condoms or discussing condoms only in the context of safer sex; (2) condom use for patients with AGW—discussing benefit, uncertainty of benefit or no benefit of condom use for AGW; and (3) condom use after disappearance of AGW—discussion of benefit of condom use for specific durations or an indefinite period of time, uncertainty of benefit, and no benefit of condom use after disappearance of AGW. These options were applied to each of three groups of patients with AGW: group A, patients without current partners; group B, patients with partners who do not have AGW; group C, patients with partners who do have AGW. More than one option for each of the three groups could be chosen. The  $\chi^2$  test was used for testing comparisons where appropriate.

Results

Of the 228 consultants contacted 104 (46%) replied.

General information provision

All of the consultants chose at least one option for each group which involved discussing the use of condoms, although three (3%) indicated that not discussing condoms could be an option for patients from group A. Discussion of condoms only in the context of safer sex was considered an option by 21 (20%), 12 (12%), and 13 (12.5%) consultants for patients from groups A, B, and C respectively. Five (5%), one (1%), and four (4%) consultants considered discussion of condoms only in the context of safer sex as the only option for patients from groups A, B, and C respectively.

Use of condoms during presence of AGW

Table 1 shows the options chosen for discussing condom use with patients with AGW

in terms of benefit, uncertain benefit, and no benefit. Fifty eight (55.8%), 69 (66.3%) and 74 (71.1%) of consultants indicated discussing at least one of these options with patients from groups A, B, and C respectively. Consultants were significantly more likely to discuss these options with patients from groups B and C than not to discuss these options ( $p < 0.05$ ), but there was no significant difference in discussing or not discussing these options with patients from group A. Benefit of condom use was the most common option discussed with each group, and consultants choosing these options were more likely to discuss condom use as beneficial than not beneficial for each group of patients ( $p < 0.05$ ). Only for patients from group A was benefit of using condoms more likely to be discussed than uncertain benefit of using condoms ( $p < 0.05$ ).

Use of condoms after disappearance of AGW

Few consultants would discuss use of condoms after disappearance of AGW as not beneficial (three (2.9%), six (5.8%), and 11 (10.6%) for patients from groups A, B, and C respectively). The majority of consultants, 56 (54%), 64 (61.5%), 53 (51.0%) for patients from groups A, B, and C respectively, indicated that condom use after disappearance of AGW was of uncertain benefit. However, of these, 26 (46.4%), 25 (39.0%), and 23 (43.4%) for patients from groups A, B, and C respectively also indicated discussing use of condoms for a specific period or an indefinite period of time.

Overall, 57 (54.8%) chose a specific or indefinite duration of condom use for group A patients (four chose two options for duration of use), 50 (48.1%) chose a specific duration or indefinite duration of condom use for group B patients (four chose two options for duration of use), and 43 (41.3%) chose a specific duration or indefinite duration of condom use for group C patients (two chose two options for duration of use).

Duration of condom use

Table 2 shows the durations chosen for dis-

Table 1 Options chosen for discussing condom use for patients with anogenital warts (AGW) (n = 104)

Options chosen for condom use for AGW	Number (%) consultants choosing options for specified groups of patients*		
	No partner	Partner does not have warts	Partner has warts
Beneficial while present	33 (32)	34 (33)	28 (27)
Beneficial/benefit uncertain while present	6 (6)	11 (10.5)	11 (10.5)
Benefit uncertain while present	19 (18)	23 (22)	29 (28)
Benefit uncertain/no benefit while present	0 (0)	0 (0)	3 (3)
No benefit while present	0 (0)	1 (1)	3 (3)
Total discussing options	58 (55.8)	69 (66.3)	74 (71.2)

\*More than one option could be chosen.

Table 2 Options chosen for duration of condom use after disappearance of anogenital warts (AGW) (n = 104)

Options chosen for condom use for AGW	Number (%) consultants choosing options for specified groups of patients*		
	No partner	Partner does not have warts	Partner has warts
3 months' use	36 (35)	36 (35)	31 (30)
6 months' use	9 (9)	6 (6)	4 (4)
9 months' use	0 (0)	0 (0)	0 (0)
12 months' use	5 (5)	3 (3)	1 (1)
Indefinite period of time	11 (10.5)	9 (9)	9 (9)

\*More than one option could be chosen.

cussion of condom use for AGW. Use of condoms until 3 months after disappearance of AGW was more likely to be chosen than any of the other options of durations of use for each group ( $p < 0.05$ ). Of consultants indicating uncertain benefit of condom use after disappearance of AGW and specifying a duration of condom use, 16 of 22 (73%), 17 of 22 (77%), and 15 of 19 (79%) chose use for 3 months after disappearance of AGW for patients from groups A, B, and C respectively.

### Discussion

Observations which show that AGW shed large amounts of HPV<sup>14,15</sup> and provide evidence that HPV is sexually transmitted<sup>16</sup> may explain why 37.5–43.5% consultants discuss condom use as beneficial for patients with AGW. However, we are not aware of any data which support the effectiveness of condom use in reducing HPV transmission for patients with AGW. Indeed, that several studies<sup>16–18</sup> have failed to show a protective effect of barrier methods against HPV transmission may explain why 24–41.5% consultants chose to discuss the benefit of condom use for patients with AGW as uncertain, and 12–20% indicated that discussion of condom use for patients with AGW only in the context of safe sex could be an option.

While there is evidence of the infectivity of AGW, the infectivity of subclinical HPV is not known.<sup>19</sup> HPV has been shown to persist after treatment<sup>20</sup> and latent HPV may cause the appearance of clinical lesions after long periods of latency<sup>21</sup> and vary between clinical and subclinical expression.<sup>22</sup> Although some studies have shown a significant incidence of subclinical HPV in the male partners of women with AGW or cervical intraepithelial neoplasia (CIN)<sup>23,24</sup> suggesting a possible infectious role of subclinical HPV, these findings must be considered in the light of the overall high prevalence of subclinical HPV in sexually active people.<sup>3</sup> Moreover, a study looking at clinical, histopathological, and DNA detection evidence of HPV infection showed that manifestation of HPV infection in male partners of women with AGW and/or abnormal cervical smears was more dependent on the men having a personal history of AGW than on the current presence of HPV infection in the female partner.<sup>25</sup> Krebs *et al.*<sup>26</sup> suggest that reinfection by the male partner is not an important cause of recurrence of condylomata acuminata in women. Recurrence rates of AGW are high whatever methods of therapy are used,<sup>27</sup> and Ferenczy *et al.* have demonstrated that, in one group of patients with extensive AGW or AGW resistant to topical treatments, recurrences may arise from latent virus close to the sites of earlier laser treatment.<sup>20</sup> This suggests that clinical recurrences may not necessarily be caused by reinfection. The finding that 51–61.5% consultants chose to discuss uncertainty of condom use after disappearance of AGW can be supported by the observation that most of the available data fail to demonstrate benefit of condom use during

subclinical genital HPV infection. However, there are some data which suggest that condom use may protect men against HPV transmission from female partners known to have (mainly subclinical) HPV infection.<sup>28</sup> The choice by 41.3–54.8% consultants of discussion of a specific or indefinite duration of condom use after disappearance of AGW may represent a cautious approach to management after AGW have disappeared. We are, however, not aware of any data to support this approach.

Further evidence of the likely lack of benefit of condom use to prevent HPV transmission is found in a prospective study of the outcome of CIN treatment, where there was no difference in outcome in women whose partners used condoms compared with those women whose partners did not use condoms over a 6 month period.<sup>29</sup> Two further studies, published since our survey was carried out, did not show that condom use prevented AGW in female attenders at a GUM clinic in London.<sup>30,31</sup>

This survey highlights the variability in information giving about condom use to patients with AGW, and suggests a need by GUM physicians to evaluate the discussion of condom use with patients with AGW. This is likely to involve reference to the evidence base concerning condom use for AGW, as well as the important role in management of counselling aspects dealing with issues of uncertainty concerning condom use for AGW.

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